

# CHAPTER 2

## 2 | MURCHISON “TODAY”

### corridor context & land use

The existing transportation network, land use framework, environmental features, and social characteristics of the Murchison Road area all were considered during the development of this corridor plan. Examining these elements have helped establish a foundation for determining critical improvements in the context of current growth and development pattern.

Murchison Road spans a diverse range of land use patterns. It traverses north Fayetteville, through freeway and thoroughfare junctions at the south end, established residential neighborhoods and Fayetteville State University in the central section, and highway-oriented commercial and industrial development along the northern segment. The corridor and neighborhoods along it are bounded to the east and west respectively by the Cross Creek and Little Cross Creek watersheds. Any changes to this corridor will affect Fort Bragg and CSX Railroad as well as a significant number of local stakeholders.

#### MURCHISON’S CONTEXT ZONES

When you drive on Murchison Road from downtown to the city limits, it is hard not to recognize three distinct zones. As you start travelling north, Fayetteville State University and the older residential neighborhoods frame the street. Buildings, decorative fencing, and low retaining walls all front the street and narrow ten- and eleven-foot lanes keep traffic relatively slow. However, little pedestrian activity exists on the sidewalks with limited retail and service businesses in the area.

After passing Jasper Street and Pennsylvania Avenue, commercial businesses become more prevalent and the homes are more frequently located in small neighborhoods on the side streets and street network just

off Murchison Road. While the building setbacks on the east side of the street primarily are 50 feet or less, only a few businesses on the west side front the street as most of the parcels are considerably deep and/or vacant. Recent redevelopment in the area has been sited back from the corridor with parking, yards, and landscaping in front. A number of automotive repair shops and parts yards operate in the area.

The middle segment serves as a transition into the commercial/industrial area north of Pamalee Drive and Country Club Road, where many businesses and residences show the signs of a corridor that has been burdened by economic difficulties and neglect for several decades. The majority of the commercial sites that border the street are small and neighborhood- or highway-focused, predominantly fast-food restaurants, small gas stations and convenience stores, automotive repair shops, and adult entertainment businesses, amongst others. Many of these have recently been vacated, abandoned, and left dilapidated. Select industrial, larger retail, and wholesale distribution businesses, most notably Barnhill Construction’s staging and materials site, Wayside Furniture, and American Tire Distributors, are located here. The area neighborhoods lie on the side streets to the west of the corridor, most with small detached and trailer homes. Between Cross Creek and the Norfolk-Southern rail corridor that parallel the corridor to the east, construction- and industrial-related uses lie on several large parcels, with a trailer home park and a few residences.





**Figure 2.** *Murchison's Context Zones*

These photographs provide a perspective of typical land uses and travel conditions on Murchison Road from For Bragg to US 401 Bypass (yellow), McLamb Drive to Langdon Street (pink), and adjacent to Fayetteville State University (blue).





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## RELATED PROJECTS

Two major municipal projects will affect the future of the Murchison Road corridor. The City of Fayetteville, Cumberland County, and the State of North Carolina have recently completed studies for two opportunities in the area just south of the study corridor:

- **Northwest Gateway Plan:** This area (below), which surrounds the convergence of Bragg Boulevard, Rowan Avenue, and Murchison Road, is a highly-visible site that forms a key entryway into the downtown, connects important community assets, and frames the proposed North Carolina Veterans Park (NCVP) site. This plan creates a more attractive, grand, and coherent entry to downtown and to the new park. Further, the concept unlocks potential redevelopment sites that will be enhanced by the Park and can add to the overall character of the area. This includes joining Bragg, Murchison, and Rowan with a roundabout or an enhanced intersection. The plan also calls for the relocation of existing businesses out of the Cross Creek floodway, to sites with better access and visibility. Further, the plan reconfigures Cross Creek to reduce current flooding problems.

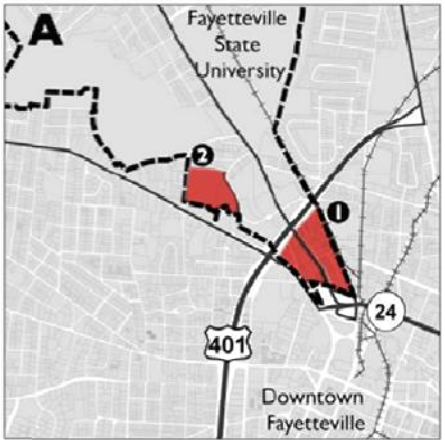


- **NC Veterans Park:** The eastern portion of the Northwest Gateway, the park will follow Cross Creek from Rowan Street to the rail bridge in front of the Airborne Special Operation Museum. The vision for the NCVP is a “21<sup>st</sup> park’ in downtown Fayetteville honoring the lives, service, and pride of North Carolina veterans [to provide] a place for meaningful reflection and inspiration in a community setting that is beautiful, bold, and unique.” The park includes a visitors center, plazas, walkways, gardens, an amphitheater, groves of preserved mature trees, park shelters, gathering areas, and a bell tower. The State of North Carolina has earmarked \$14 million towards the construction of the park.

## PHASE I CATALYST PROJECTS

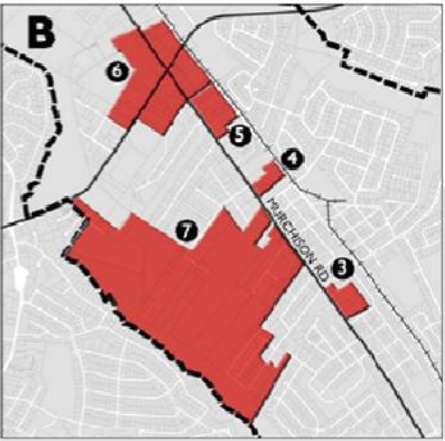
The Phase I report identified nine catalyst sites, key areas/parcels where redevelopment and investment are expected to dramatically change the economic and social fabric of the study area and region overall. Based on the economic analysis of the study area, the report stressed a clear priority for retail development at particular sites in the short-term, particularly convenience retail development (grocery stores, restaurants, drug stores, etc.). Initial retail development was indicated to be a driving factor in helping generate demand for other uses and a major factor in precluding other types of development. Residential development showed a fairly strong short-term demand and potential, particularly additional rental housing options for FSU students.

The analysis also identified some short-term office development potential, with smaller scale space to house service functions (banking, legal services, community services, etc.) in the southern segment and potentially larger scale spaces in the long term based on ties with FSU and Fort Bragg.



**Site #1:**  
Number of Parcels: 99  
Area: 29.7 Acres

**Site #2:**  
Number of Parcels: 2  
Area: 18.0 Acres



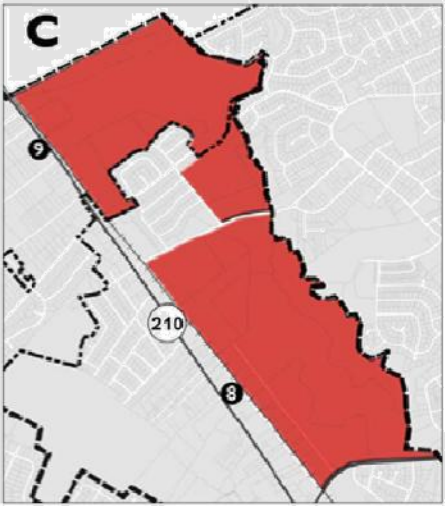
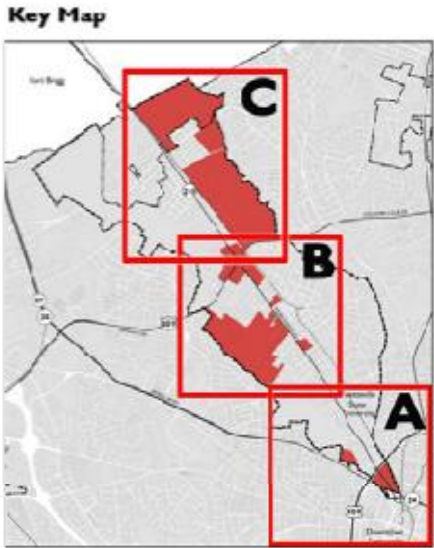
**Site #3:**  
Number of Parcels: 3  
Area: 8.8 Acres

**Site #4:**  
Number of Parcels: 3  
Area: 6.3 Acres

**Site #5:**  
Number of Parcels: 7  
Area: 13.5 Acres

**Site #6:**  
Number of Parcels: 38  
Area: 38.9 Acres

**Site #7:**  
Number of Parcels: 83  
Area: 272.2 Acres



**Site #8:**  
Number of Parcels: 19  
Area: 350.8 Acres

**Site #9:**  
Number of Parcels: 16  
Area: 286.1 Acres





## environmental

Little Cross Creek and Cross Creek roughly parallel Murchison Road to the west and east, respectively (**Figure 3**). The two creeks, like the major road corridors of the City, emanate radially from Downtown Fayetteville and therefore separate Murchison Road residents and business owners from development along Bragg Boulevard and Ramsey Street. Both waterways are made up of a series of small lakes and wide wetland areas as they flow towards the Cape Fear River, but much of the land adjacent to the creeks is held by the City of Fayetteville. The two creeks converge just south of FSU before traveling into downtown. Rose Lake, a reservoir on Little Cross Creek, is one of the City's sources of drinking water with a treatment plant located just off Filter Plant Road.

The Natural Heritage Program reports several occurrences of threatened and endangered species in the upper reaches of Little Cross Creek near the Shaw neighborhood. Segments of the creek from Bonnie Doone Lake to Kornbow Lake provide habitat to certain endangered vascular plant species. The pine forests just north of this area are a documented nesting area for red-cockaded woodpeckers, as is much of undeveloped area in Fort Bragg.

For the most part, the study area is flat with a slight topographic change as is typical for the Sandhills region, losing only 125 feet of elevation in the five miles from Fort Bragg to Downtown Fayetteville. Sharp and considerable drop offs occur adjacent to the creeks. The study area primarily is a short plateau stretching from the base of the city.

Only one hazardous materials site is reported in the study area, the petroleum/oil refining site just east of the rail line on the north side of Shaw Mill Road.





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## community & demographics

Based on interviews with stakeholders and discussion with citizens at the charrette, the neighborhoods and community along Murchison Road have long been stigmatized as less desirable and neglected by the general populace of Fayetteville. The local residents and businesses commonly hear others refer to this area as “the Murc,” and seek to help create a better residential and commercial environment as to help shed both the nickname and the connotation that has been associated with it.

A review of demographic data available through the 2000 Census shows that a majority of the residents are minority, predominantly African-American (**Figure 4**) and the area has a relatively low Hispanic population (**Figure 5**). A large portion of the households make less than poverty level wages (**Figure 6**). Historically, minority and low-income populations have been disproportionately impacted by roadway projects until Environmental Justice regulations were put in place by President Clinton in 1994 (Executive Order 12989, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”). Many community residents indicated that their parents and grandparents dealt with those exact issues when the road was widened to four lanes many decades ago.

While no historic buildings or districts are listed on the National Historic Register for the study area, there are items of historic significance to be found there. Fayetteville State University is the State’s second oldest educational institution and one of the oldest historically black colleges in the nation. A historic marker near the intersection of Blue Street and Murchison Road also commemorates the life of Hiram R. Revels, the first African-American to serve in Congress. The road lies near the alignment of one of the major plank roads, the Fayetteville & Western, that linked the City to points north and west in the middle 1800’s before the Civil War.

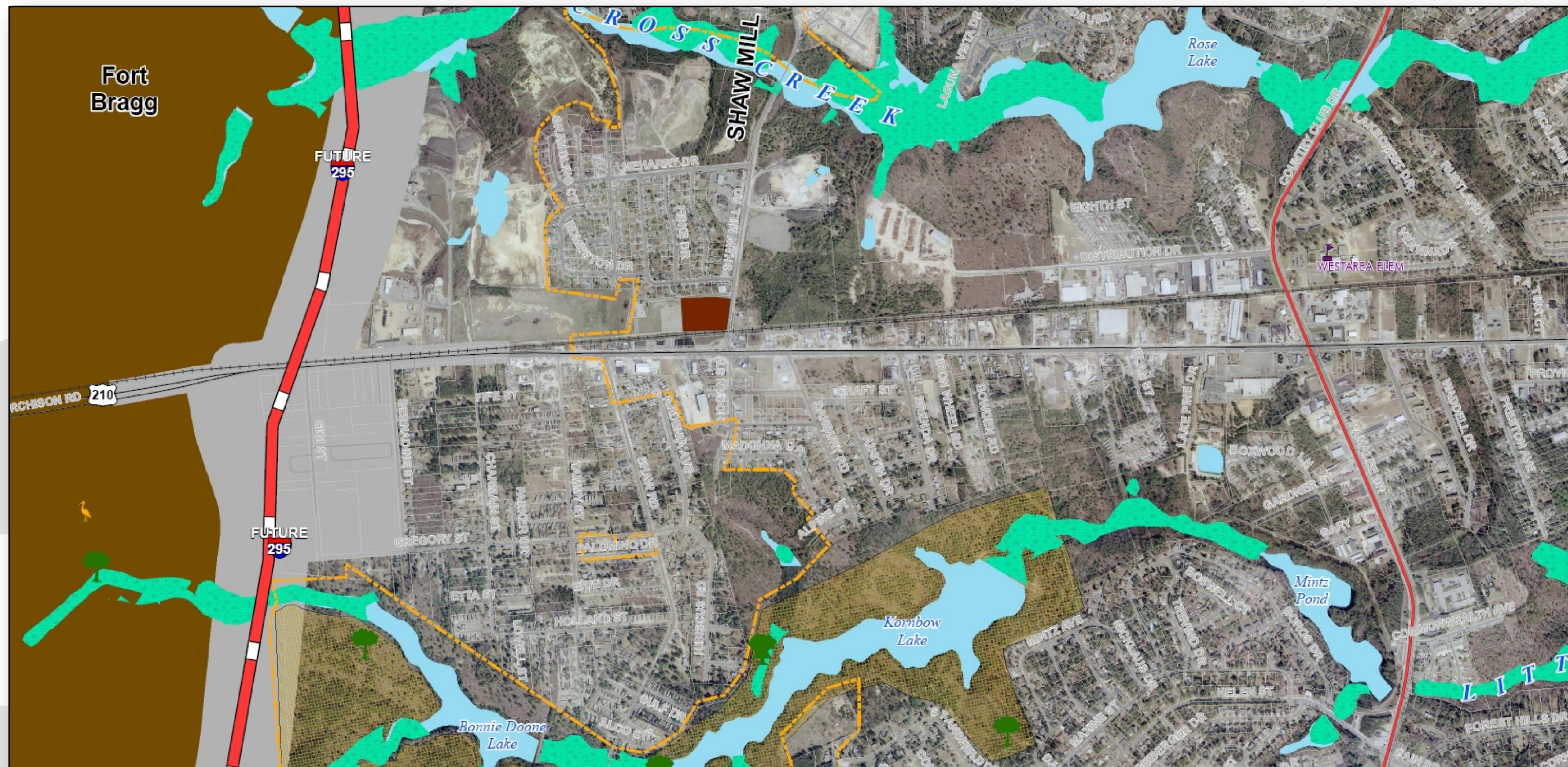
Other than Fayetteville State University, the study area also is the home to three schools in the Cumberland County school system: Westarea Elementary, Ferguson-Easley Elementary, and E. E. Smith High School. Numerous churches and places of worship of various sizes and denominations are located on or near the corridor.







**Figure 3.** Natural, Environmental, and Cultural Features





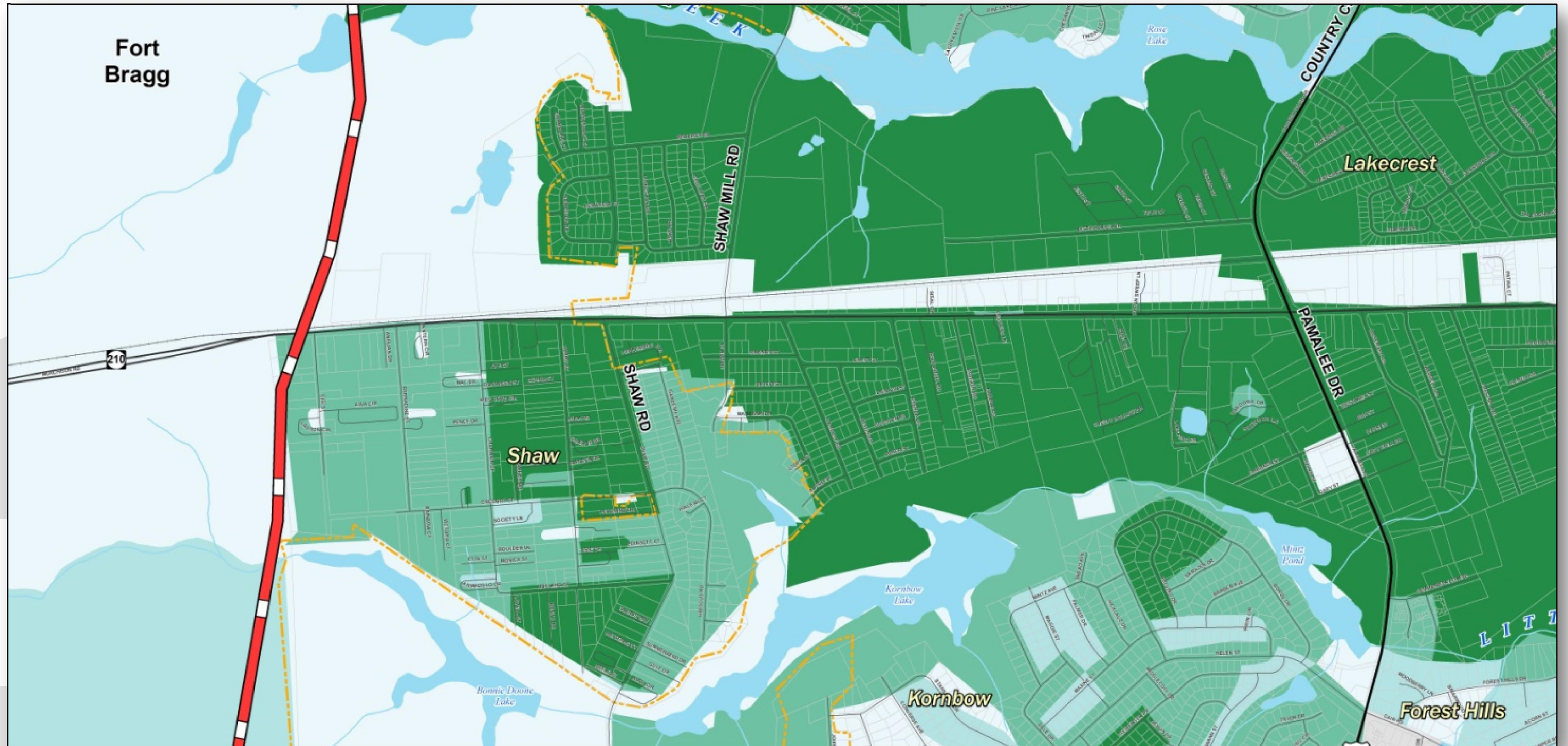
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Figure 4. Demographics – Percent Minority (Source: 2000 Census)





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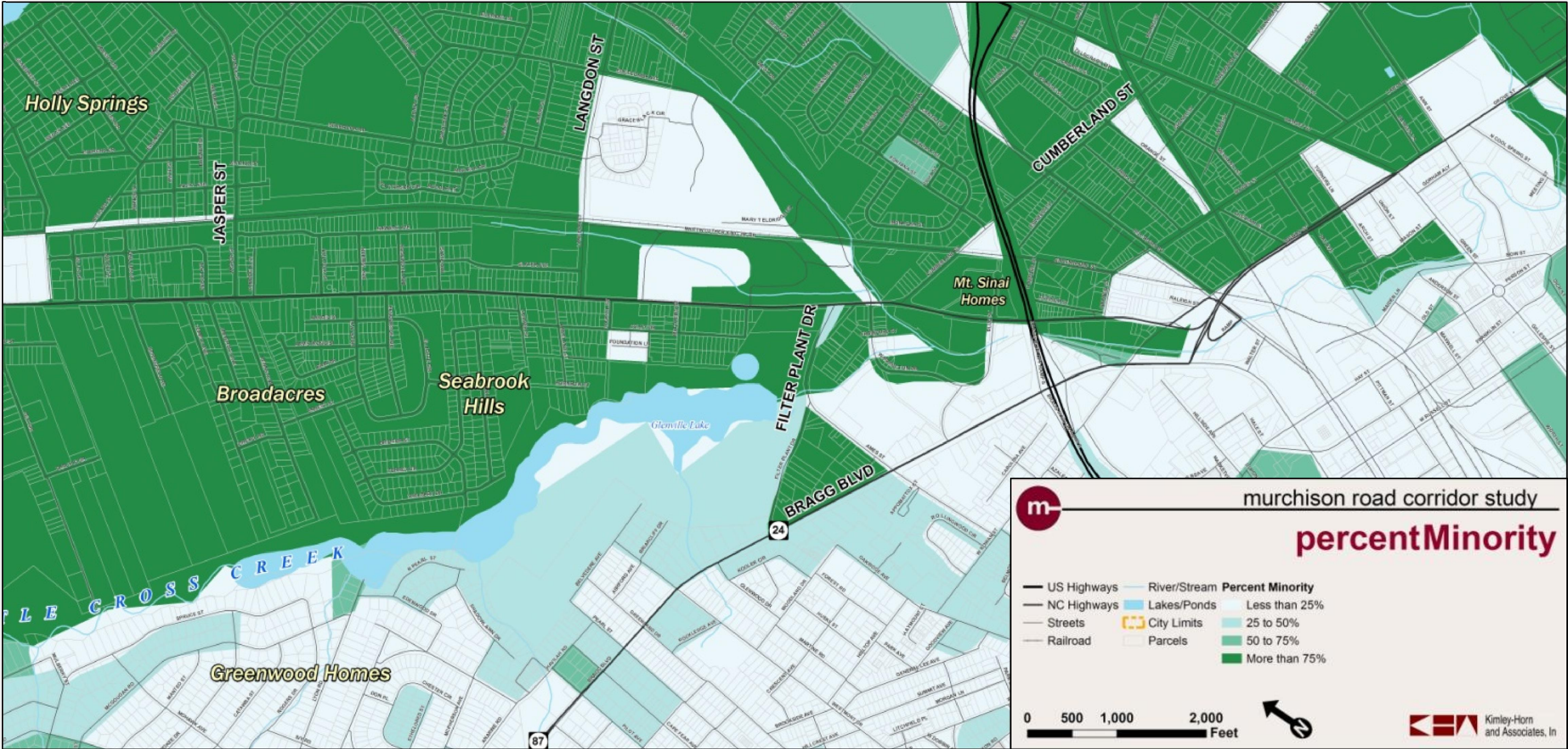
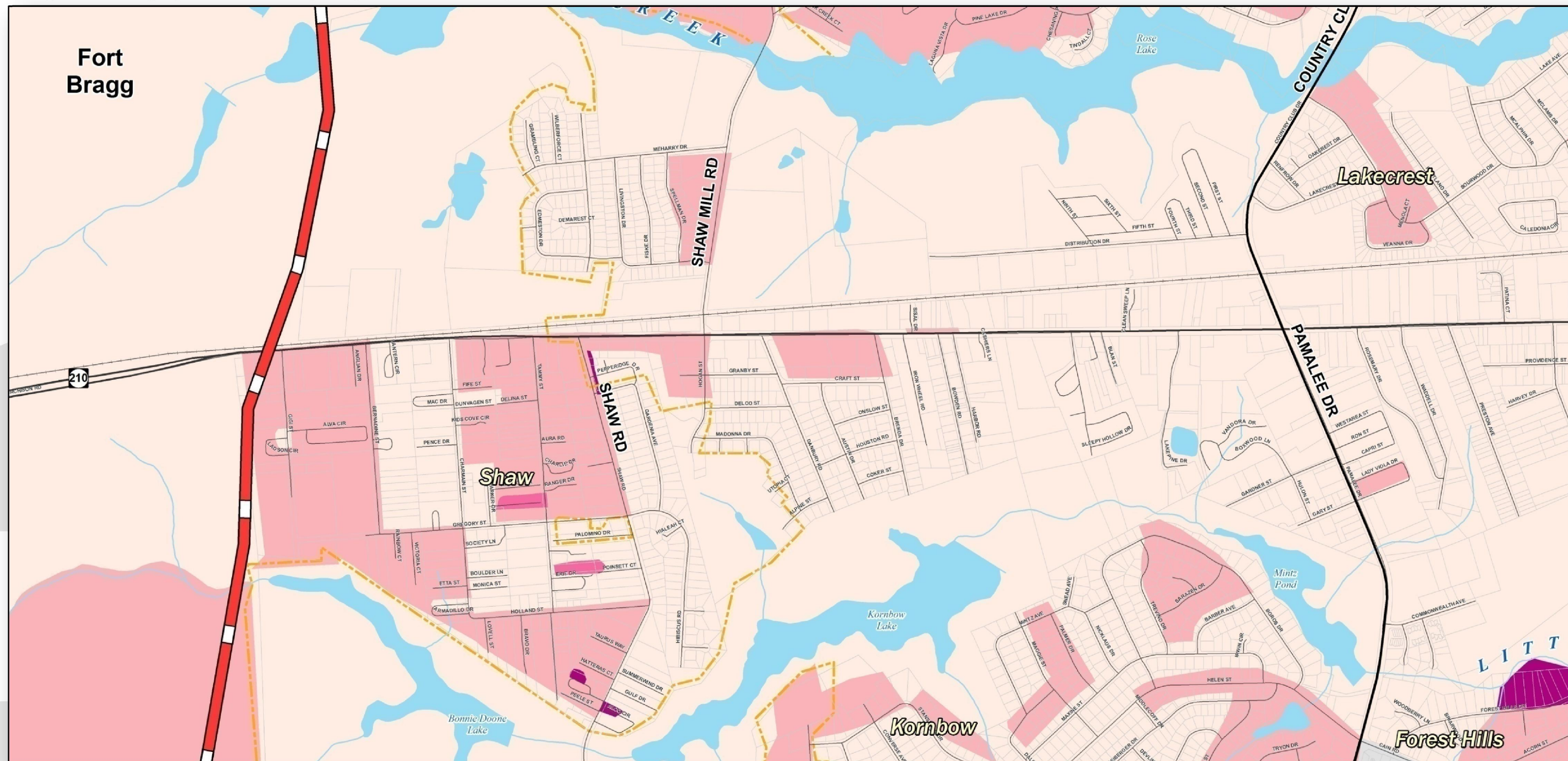






Figure 5. Demographics – Percent Hispanic (Source: 2000 Census)





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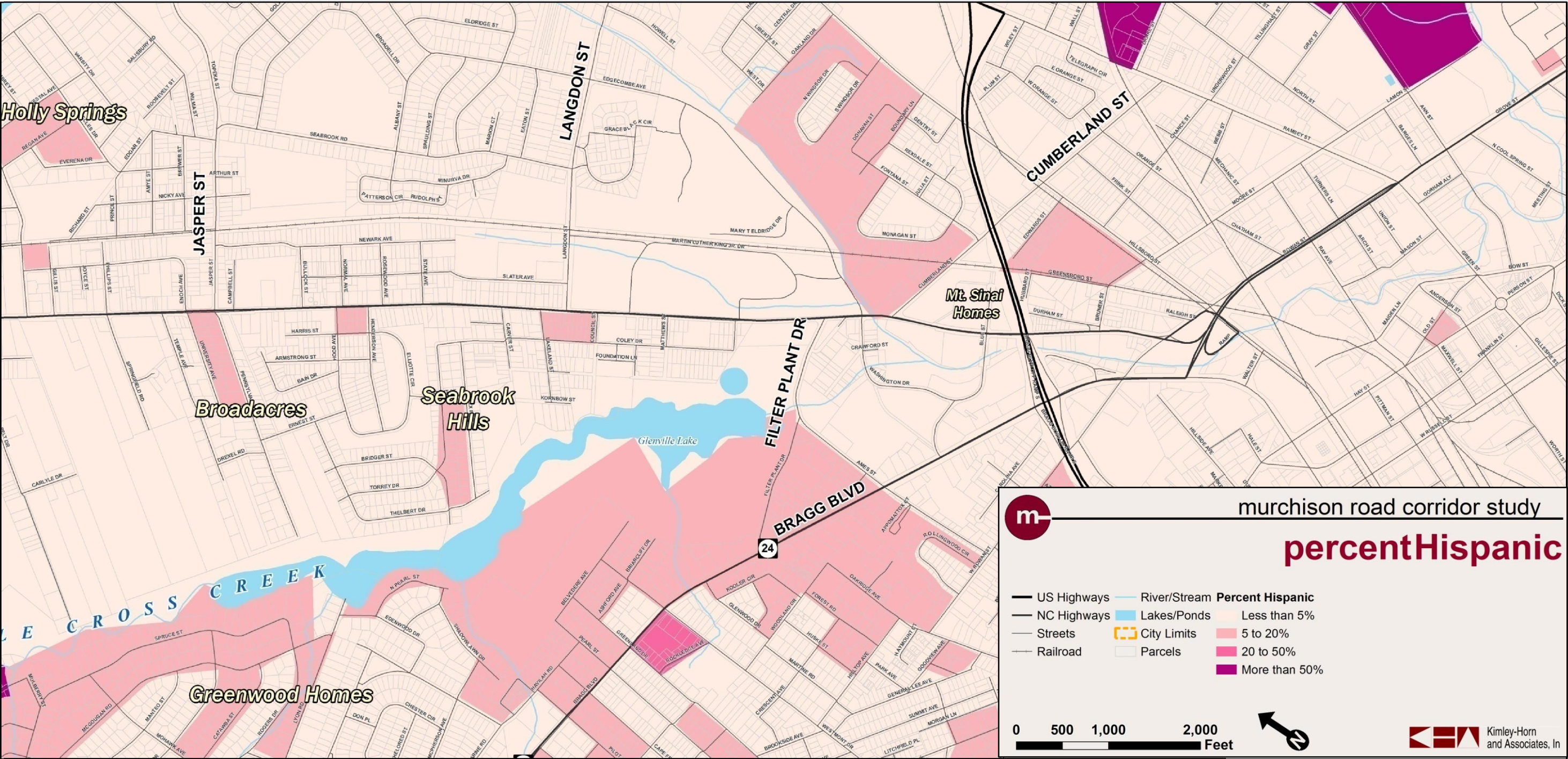
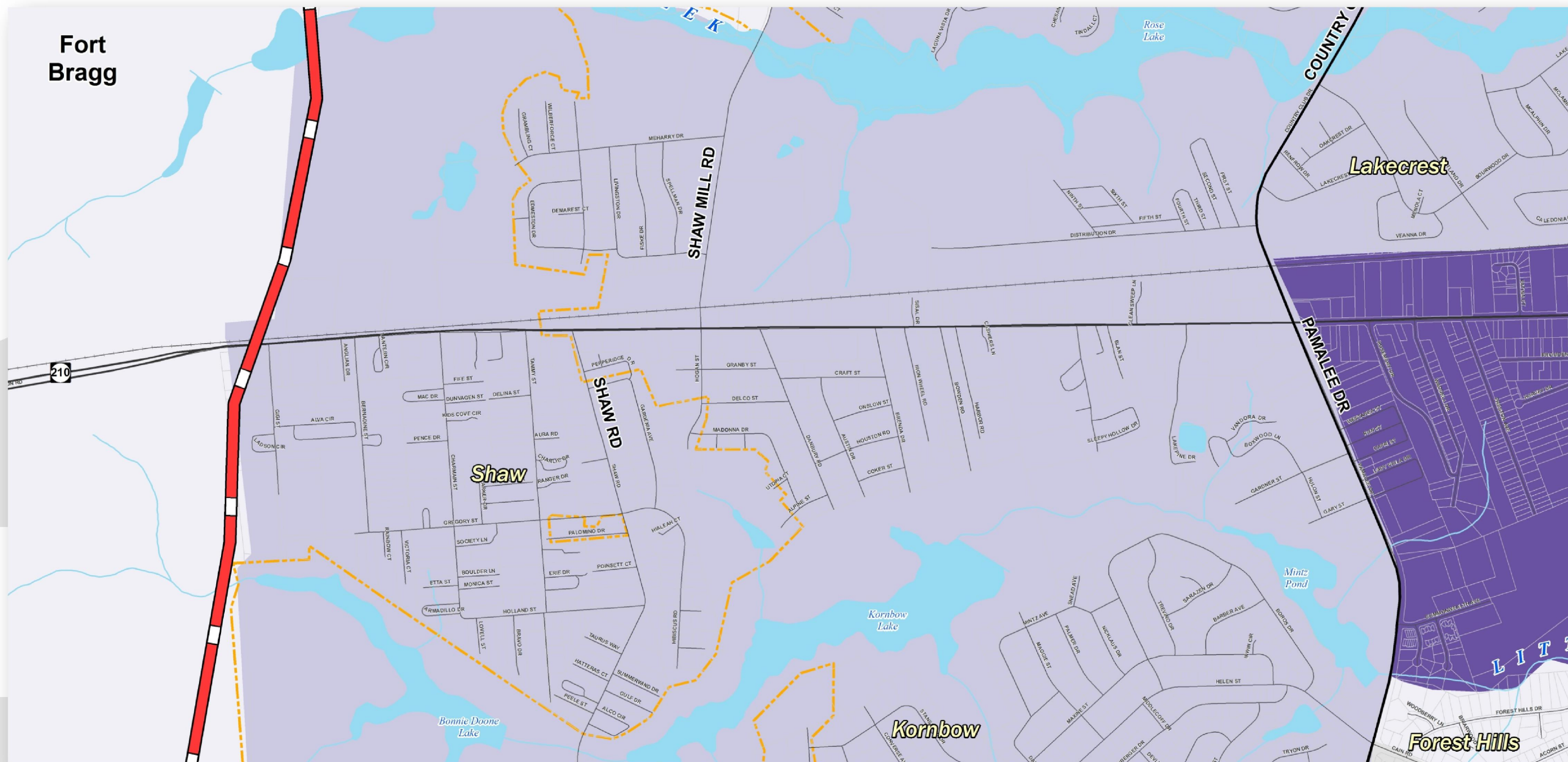




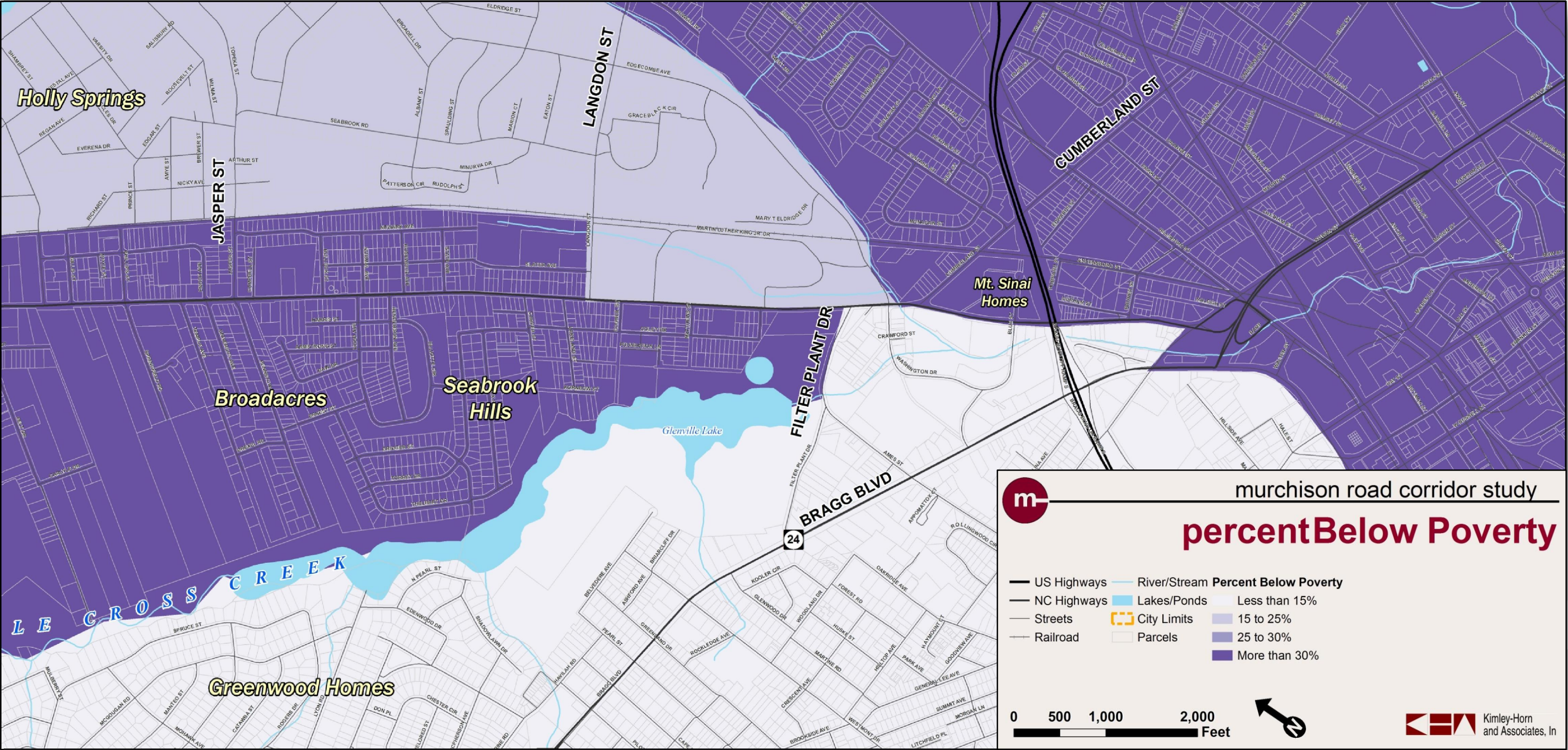


Figure 6. Demographics – Percent Below Poverty (Source: 2000 Census)





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## transportation

Murchison Road is one of several arterials for the City and serves north – south traffic headed to and from Fort Bragg, Spring Lake, Lillington, and communities further north. Roadways classified as “arterials” provide high mobility, operate at higher speeds (45 mph and above), provide significant roadway capacity, may have access control, and serve longer distance travel. While most arterials connect to one another or to collector streets, a few arterials connect to local streets.

Even though Murchison Road is one of several radial arterials for the City, the corridor lacks good east-west connectivity. In the span of five miles, only Cumberland Street, Langdon Street, Country Club Road, and Shaw Mill Road link the corridor to Ramsey Street to the east. At the same time, Shaw Road, Pamalee Drive, and Filter Plant Road provide only three connections across Little Cross Creek to the west and Bragg Boulevard. While future I-295 will increase the connections by one for each direction, the overall average spacing will be approximately one per mile to the east and one per one and a quarter miles for the west. No additional collector or local street connections occur in either direction, which limits the east-west routes across north Fayetteville and increases traffic on these select corridors.

### TRAFFIC TODAY

Traffic volumes signify the total number of vehicles traveling along a roadway segment on an average day. **Table 3** shows historic NCDOT average annual daily traffic (AADT) in 2005. With traffic ranging from 12,000 to 23,000 vehicles per day dependent on the segment, the corridor already is operating at LOS C and D. These volumes are expected to significantly increase in the future with the extension of I-295 to Bragg Boulevard and the access restrictions that will go in place at the Bragg Boulevard entrance to the base. To better understand how traffic is operating in the morning, evening, and weekend rush hours, turning movements at all the major intersections were counted in spring 2008. Capacity analyses were performed for the AM and PM peak hours for the existing (2008) traffic conditions using Synchro Version 7 software to determine the operating characteristics of the adjacent road network.

Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a set time duration. Capacity is combined with Level-of-Service (LOS) to describe the operating characteristics of a road segment or intersection. LOS is a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The Highway Capacity Manual defines six levels-of-service (LOS A through F) with A representing the shortest average delays and F representing the longest average delays. LOS D typically is the accepted standard for signalized intersections in urbanized areas. For signalized intersections, LOS is defined for the overall intersection operation.

For unsignalized intersections, only the movements that must yield right-of-way experience control delay. Therefore, LOS conditions for an intersection are best represented by reporting the delay to the side street approaches and movements . Results between LOS A and LOS C for the side street approach are assumed to represent short delays. For descriptive purposes, results between LOS D and LOS E for the side street approach are assumed to represent moderate delays, and LOS F for the side street approach is assumed to represent long delays. It is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. **Table 4** lists the LOS control delay thresholds published in the Highway Capacity Manual for signalized and unsignalized intersections, as well as the unsignalized operational descriptions assumed herein.

**Figure 7** displays the transportation issues and elements for the Murchison Road corridor.

**Table 3. Average Daily Traffic Volumes (2005)**

Murchison Road Segment	2005 AADT	2005 LOS
MLK to Langdon	12,000	C
Langdon to Jasper	15,000	C
Jasper to Country Club	23,000	D
Country Club to I-295	23,000	C
Ft Bragg South	15,000	C
Ft Bragg North	19,000	C

Source: NCDOT AADT Counts, 2005

**Table 4. Intersection Level-of-Service Control Delay Thresholds**

Level-of-Service	Average Control Delay (sec/veh)		
	Signalized	Unsignalized	
A	≤ 10	≤ 10	Short Delays
B	> 10 – 20	> 10 – 15	
C	> 20 – 35	> 15 – 25	
D	> 35 – 55	> 25 – 35	Moderate Delays
E	> 55 – 80	> 35 – 50	
F	> 80	> 50	Long Delays

Source: Highway Capacity Manual, 2000



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All of the intersections along the Murchison corridor currently operate at an acceptable LOS D or better (**Table 5**) based on the traffic counts provided and signals coordinated to 110- or 140-second cycle lengths in the AM and PM peak hours. However, field observations indicate considerable queuing at the Country Club/Pamalee intersection and for the left turns at Shaw and Shaw Mill Road in both peak periods.

SAFETY

**Figure 8** highlights the top ten intersections of interest based on a combination of factors including number of crashes, crash type, severity index, and crash rate. Listed in order from south to north, the frequency of rear-end and left turn crashes for the intersections south of Country Club Drive/Pamalee Drive is expected since the roadway is an undivided four-lane section. Rear ends commonly occur on these types of roads when vehicles stop in the travel lane to turn left. The left turn crashes are indicative of motorists attempting to turn left through inadequate gaps in traffic because of traffic queuing behind them or congested flow in the opposite direction.

BICYCLE & PEDESTRIAN

Other than sidewalks, few pedestrian accommodations are provided along the corridor. Six-foot wide sidewalks are located on both sides of the street from Blue Street north to approximately University Avenue, and from there on the east side of the street to Shaw Mill Road.

No specific bike accommodations exist along the corridor.

TRANSIT

- Two transit services currently operate along the Murchison Road corridor:
- **Fayetteville Area System of Transit (FAST):** FAST Route 12 is the system’s route with the highest ridership and runs the length of the corridor from Charmain Street to Rowan Street. FAST operates 10 fixed routes that serve 1,003,000 riders annually. All of the fixed-route buses are wheelchair lift equipped to serve the disabled community. Operating hours are from 5:45 AM to 7:30 PM Monday through Friday and 7:30 AM to 7:30PM on Saturdays. In addition to the fixed-route buses, FAST operate a complimentary Paratransit

service for those qualifying under the Americans with Disabilities Act and a coordinated human services transportation system.

- **Bronco Shuttle:** This shuttle is a student service of Fayetteville State University and provides circulator system throughout campus and along Langdon Street and Murchison Road, including Bronco Square shopping center.

Table 5. Intersection Level-of-Service Summary (Existing)

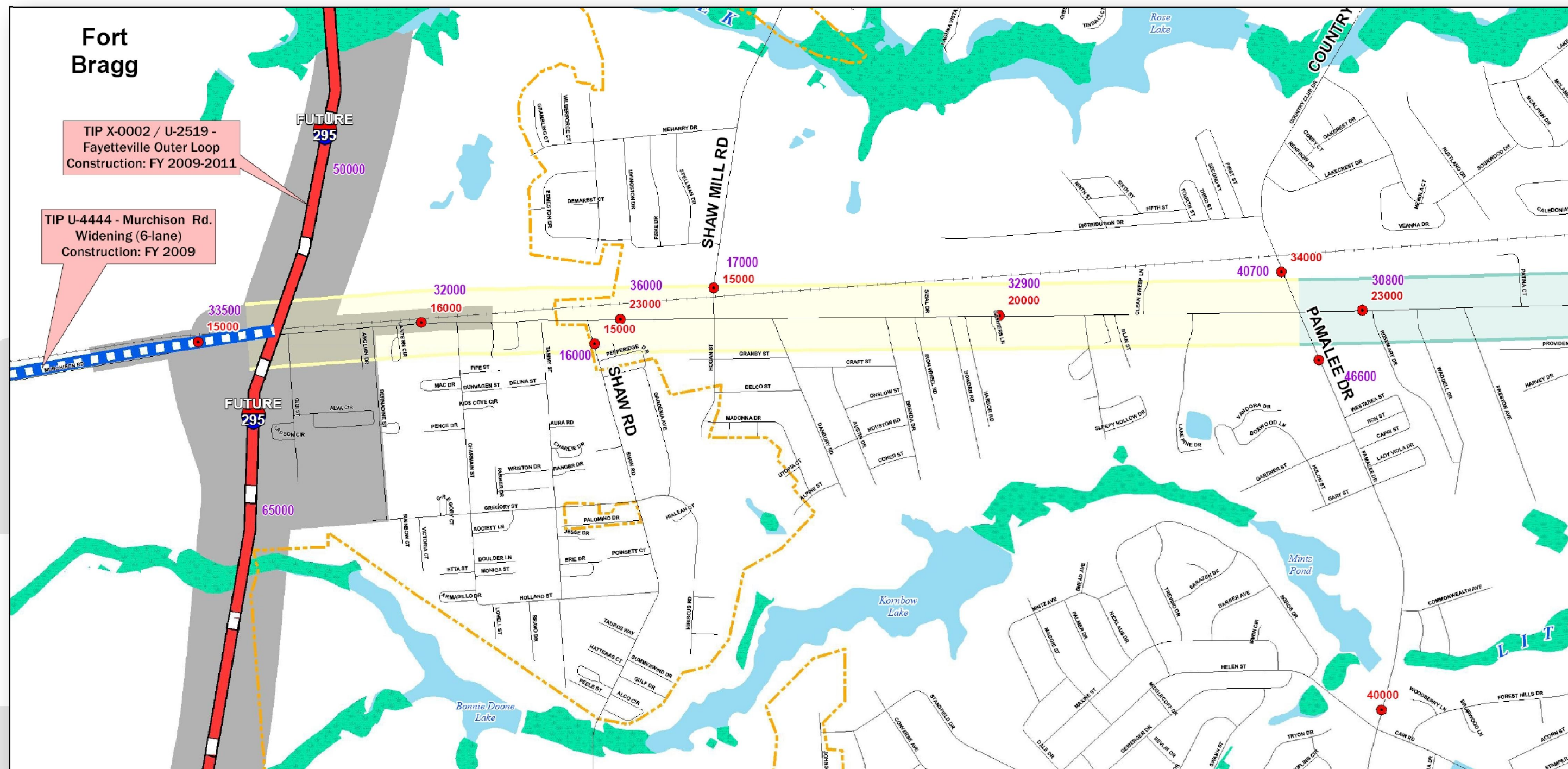
Condition	Peak-Hour LOS (Delay)		
	AM	PM	Saturday
Chairman Street	B (13.2)	B (13.6)	B (10.1)
Shaw Road	C (25.9)	C (29.8)	B (17.5)
Shaw Mill Road / Hogan Street	C (33.6)	D (37.8)	C (29.2)
Country Club Drive / Pamalee Drive	D (40.6)	D (44.2)	D (43.0)
McLamb Drive	C (16.1)	C (19.0)	
Jasper Street / Pennsylvania Avenue	B (13.1)	B (11.2)	
Langdon Street	A (8.8)	A (9.5)	
Currie Street / WT Brown Street	A (9.6)	B (12.1)	
Filter Plant Drive	B (18.0)	B (16.1)	
Edgecombe Avenue / Washington Drive	C (16.9)	C (21.9)	
Cumberland Road	B (11.2)	B (14.0)	
Blue Street	B (13.4)	C (15.1)	

Unsignalized intersections indicated in *italics* and LOS and delay represent that of the most delayed minor street approach.





Figure 7. Transportation Elements





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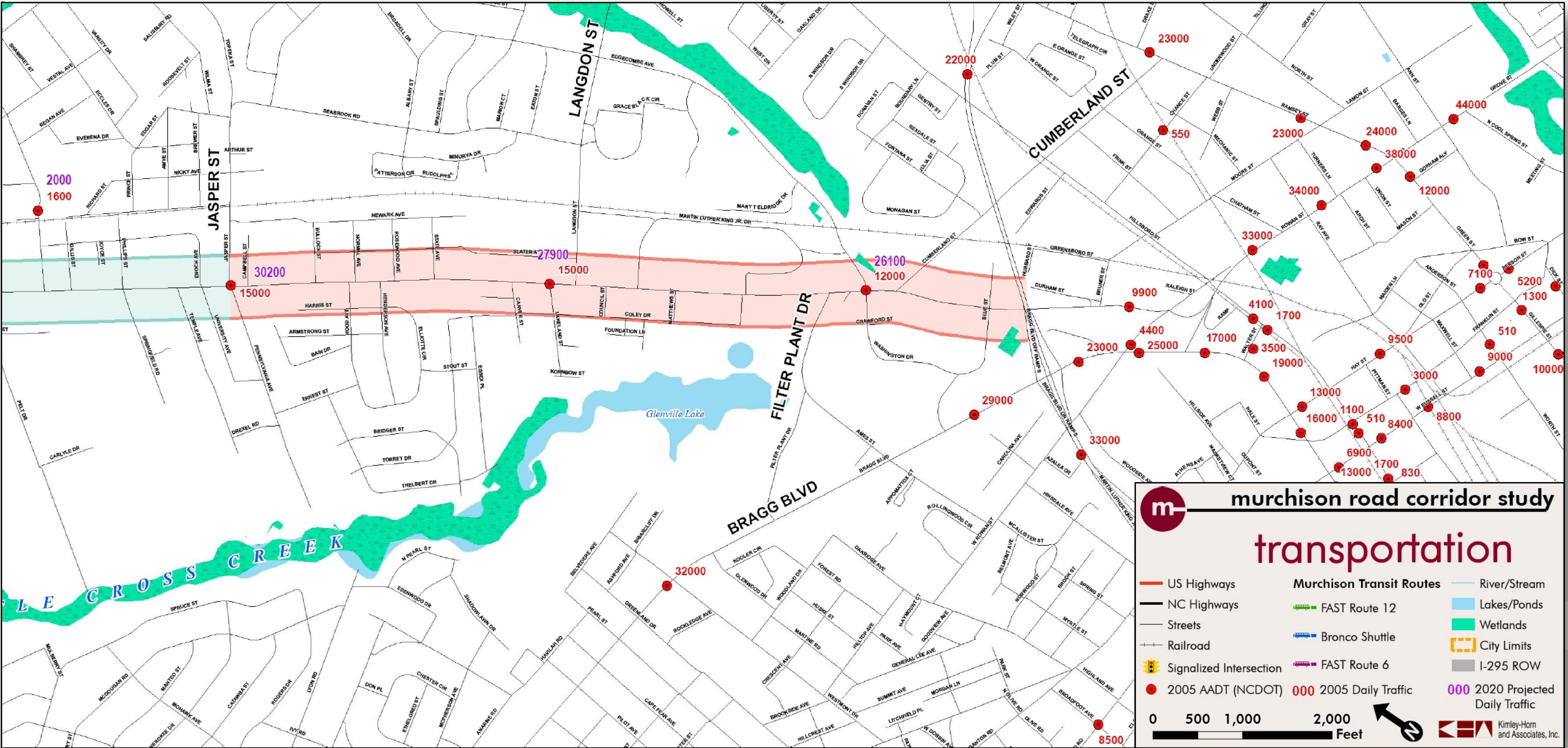


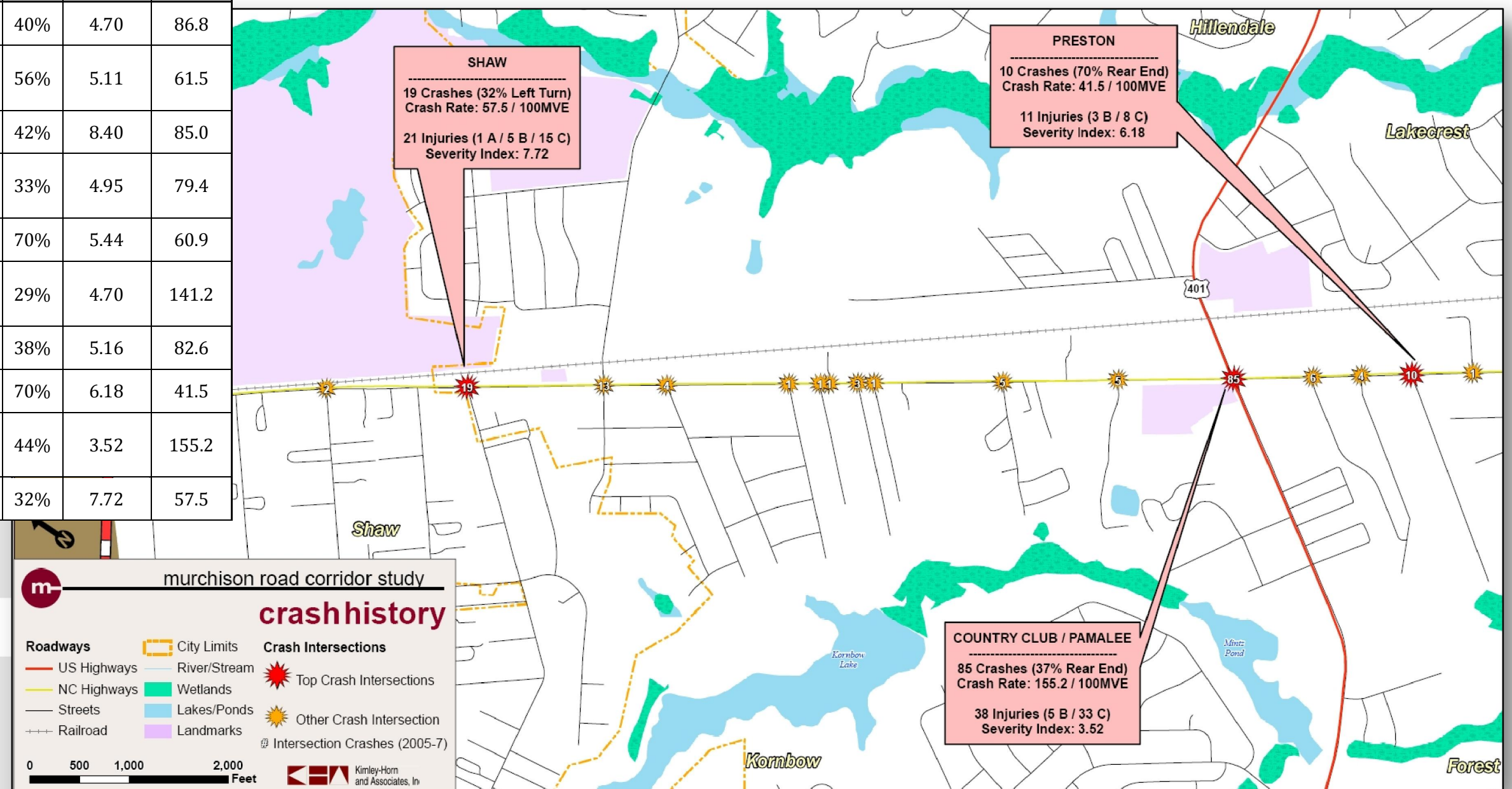




Table 6. Top Ten Crash Intersections (2005-2007)

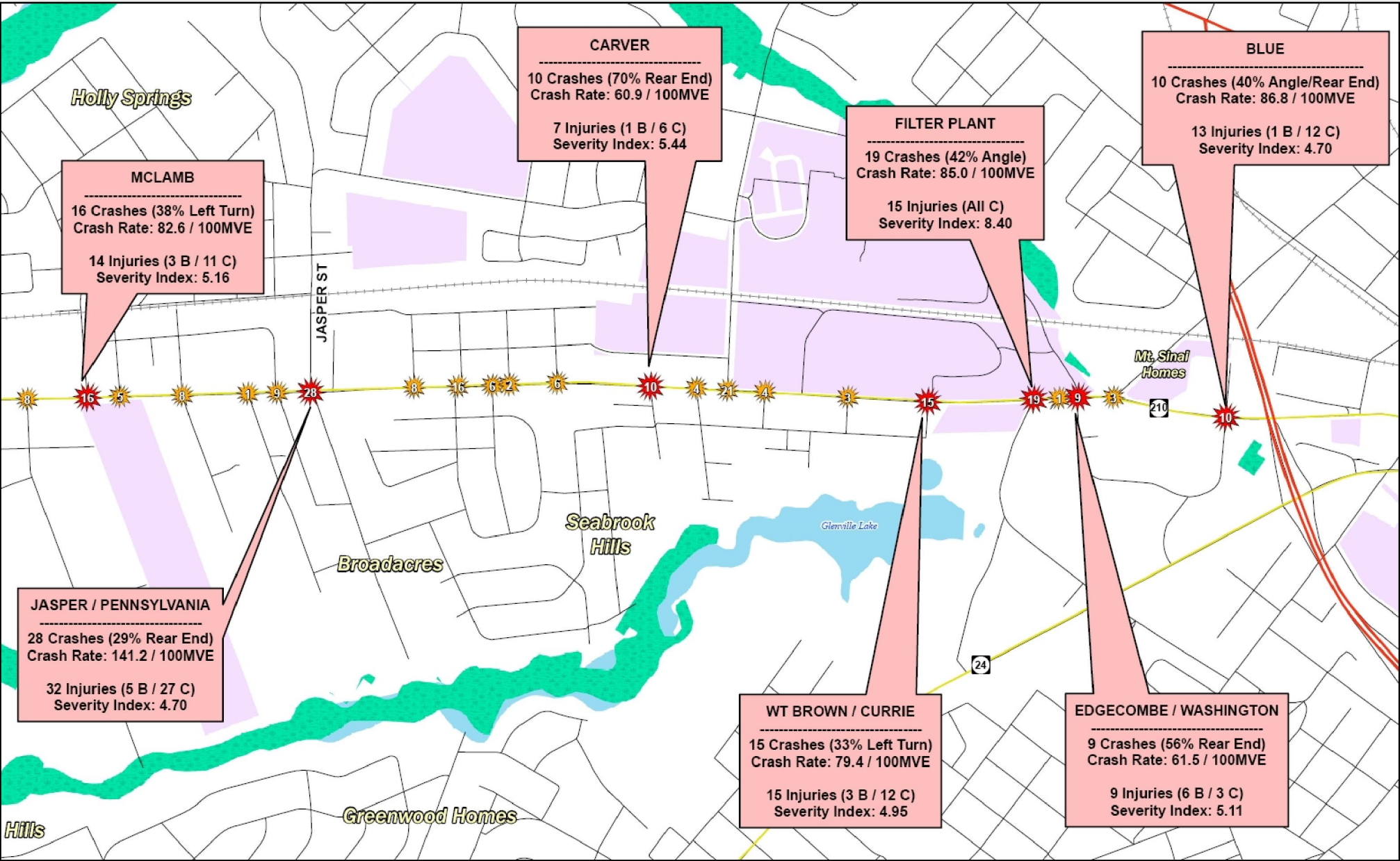
Intersection	Crashes	Frequent Crashes		Severity Index	Crash Rate
		Type	%		
Blue	10	Angle/Rear End	40%	4.70	86.8
Edgecombe/ Washington	9	Rear End	56%	5.11	61.5
Filter Plant	19	Angle	42%	8.40	85.0
WT Brown/ Currie	15	Left Turn	33%	4.95	79.4
Carver	10	Rear End	70%	5.44	60.9
Jasper/ Pennsylvania	28	Rear End	29%	4.70	141.2
McLamb	16	Left Turn	38%	5.16	82.6
Preston	10	Rear End	70%	6.18	41.5
Country Club/ Pamalee	85	Rear End	44%	3.52	155.2
Shaw	19	Left Turn	32%	7.72	57.5

Figure 8. Intersection Crash Data, 2005-2007





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murchison**corridor**



*Traffic queues on several approaches of the Murchison/ Country Club/Pamalee intersection during the evening rush hour*